FINAL

Water Area Munitions Study
NAVSTA Newport, Rhode Island

Carr Point Shooting Range

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ENCLOSURE 1

NAVSTA Newport – Recommendations

The following recommendations are made for the Carr Point Shooting Range located at Naval Station (NAVSTA) Newport, Newport County, RI. The recommendations are based on data presented in the Final Water Area Munitions Study (WAMS) dated October 2005, prepared by Malcolm Pirnie, Inc. If additional data are discovered, then the recommendations should be reviewed and updated appropriately. Recommendations are presented for munitions and explosives of concern (MEC) and munitions constituents (MC) for the Carr Point Shooting Range.

Carr Point Shooting Range

Data Summary

The former Carr Point Shooting Range was used as a recreational skeet range by Navy personnel from 1967 to 1973, and by the Aquidneck Island Military Rod and Gun Club from 1975 to 1989. During its use as a skeet range, clay pigeons were launched toward Narragansett Bay, and small arms (i.e., shotguns) were fired at the targets as they flew over the water. Three firing points were previously located at the site. These firing points were located along the west side of the site, and were situated so that shooters would fire in the direction of Narragansett Bay. As such, targets and ammunition dropped into the water (and in some cases, onto the beach), with shells and casings released at the firing point. Since the firing line was approximately 25 to 60 yards from the water, the lead shot is expected to have landed in the water based on the firing fan of shotguns that would have been used at the recreational range. The area with potential target fragment accumulation is 100 yards, while the area with potential lead shot accumulation extends to 300 yards, as recommended by U.S. Navy guidance (U.S. Naval Aerotechnical Shore Facilities Programming Guide, 1958). Because the shots were fired over water, there was no berm or similar ground feature to act as a backstop for spent ammunition. According to installation personnel, there has been no investigation, remediation, excavation, or cleanup of munitions-related constituents at the site. As such, no analytical data are available for the site.

The majority of the skeet range facilities have been removed from the site; however, no information regarding facilities decommissioning and/or soil removal has been identified. The

former range site was redeveloped as a recreational vehicle (RV) park in approximately 1990, and currently has 12 RV campsites. The former clubhouse (Building 233) has been converted to office and storage space for the RV park. The RV park is open from Memorial Day Weekend through October for rental by military and DoD personnel. The site is not available to the general public. Guests typically stay for three to four days at a time and are allowed to stay for a maximum of two weeks. Water and electricity hookups are available for RVs, but gas hookups are not. The area is currently used for recreational purposes only. According to personnel interviewed at NAVSTA Newport, the Carr Point Recreation Area may be redeveloped into a golfing area (e.g., driving range). Otherwise, future use is not expected to change.

Recommendations

No Further Action (NFA) is recommended for the Carr Point Shooting Range with respect to MEC, since historical use and evidence as discussed throughout the WAMS report indicate that no MEC is present at the site.

Available documentation indicates that a possibility for MC exists at this site. Chemicals of potential concern are expected to be metals, including lead, residing in the surface soils at the Carr Point Shooting Range.

Site Inspection (SI) is recommended for soil at the Carr Point Shooting Range. While the setup of the trap range is such that ammunition was fired at targets over the water, clay pigeon fragments and one spent shotgun casing were found on the beach, indicating the possibility for similar objects and associated chemicals (particularly lead) to be found at other areas of the site. The possibility for sensitive ecological receptors and plants of special concern to be adversely impacted by residual contaminants exists in the vicinity of the study area. Analytical data from surface water and/or sediment samples were not available for review. Based on visual and historical evidence, the range does not appear to have been used extensively, and significant impact to the soil at the site is not expected. However, based on the possibility of sensitive ecological receptors and plants of special concern in the vicinity of the study area, and the lack of sampling data to confirm the absence of lead and other chemicals of potential concern, SI is recommended for soil at the site in the absence of any further data. As part of this investigation, it is recommended that a literature search be conducted for similar sites where risk assessment

and analysis have been performed regarding the potential impacts on the water environment due to clay pigeon fragments (which contain polycyclic aromatic hydrocarbons) and lead shot.

With regard to groundwater, chemicals of potential concern may be subject to mobilization through soil. Any munitions constituents remaining in the soil are expected to lie in the surface (i.e., 0 to 12 inches). Groundwater at the site is 5 to 12 feet below ground surface. While surface soil is not in constant contact with groundwater, it is possible for chemicals (e.g., lead) to migrate from surface soil to groundwater during rain events. Groundwater in the area of the site drains to the Narragansett Bay via surface water streams. No data are available to determine whether groundwater quality in the area of the Carr Point Shooting Range has been adversely affected by historical range operations. Based on the proximity of the Carr Point Shooting Range to Narragansett Bay, groundwater is expected to be tidally influenced. While groundwater may discharge to Narragansett Bay, the brackish conditions of this water body are likely to degrade chemicals that may be transported from the site. The sandy/estuarine areas below the ground surface in the area of the rocky beach are likely to be highly porous, allowing water from Narragansett Bay to flow in and out of the subsurface of the site easily, thus promoting attenuation of any lead that may be present in the groundwater. Furthermore, groundwater in the area of the Carr Point Shooting Range is not used for potable purposes. Therefore, groundwater is not of primary concern at the site. Based on these considerations, NFA is recommended for groundwater at the Carr Point Shooting Range. If soil sampling results indicate that residual contaminants in soil are in excess of regulatory criteria/standards and suggest that groundwater infiltration may be a significant pathway for unreasonable risk to human and/or ecological health, then a groundwater investigation may be recommended as appropriate.

	Carr Point Shooting Range	
Options	**MEC**	**MC**
No Further Action (NFA)	X	
Site Inspection (SI)		X
Emergency Response (ER)		

With regard to the water-based portion of the Carr Point Shooting Range (i.e., the portion of Narragansett Bay that is within the Surface Danger Zone and Target Area as depicted in Figure 5-2 of the Final WAMS Report), a Preliminary Assessment is recommended. Such a study would provide summaries of the potential hazards from MEC and/or MC, and recommendations for further investigation as appropriate.

ENCLOSURE 2

Naval Station Newport Prioritization Protocol

Munitions Response Site Prioritization Protocol, Proposed Rule, August 2003
(Version 2.0, 27 August 2003)

Installation Name:	NAVSTA Newport	**EHE Score:**	G (score – 28).
Sit Name:	Carr Point Shooting Range	**CHE Score:**	No known or suspected CWM hazard.
Completed By:	Michael Chung (Malcolm Pirnie, Inc.)	**RRSE Evaluation:**	"High" (2) or "Medium" (5) pending further data collection.
Date Completed:	July 21, 2005	**Overall Priority:**	8

Background

The Munitions Response Site Prioritization Protocol reflects the statement in 10 U.S.C. § 2710(b)(2) that the priority assigned should be based on the overall conditions at each location, taking into consideration various factors relating to safety and environmental hazard potential. As required under 10 U.S.C. § 2710(b)(1), the priority assigned to each munitions response site will be included with the inventory information made publicly available. The requirement for an inventory of munitions response sites known or suspected of containing unexploded ordnance, DMM, or MCs is found at 10 U.S.C. § 2710(a). The assigned priority will be updated annually to reflect new information that becomes available.

Description

The Munitions Response Site Prioritization Protocol evaluates the following potential explosive safety and environmental hazards:

- Explosive hazards posed by unexploded ordnance (UXO) and discarded military munitions (DMM)
- Hazards associated with the effects of chemical warfare materiel (CWM)
- The chronic health and environmental hazards posed by munitions constituents (MC) or other chemical constituents.

DoD recognizes the different hazards inherent to each class of materials. To address these differences, the Protocol has three hazard evaluation modules, each of which is specific to one type of hazard, specifically:

- Explosive hazards are evaluated using the Explosives Hazard Evaluation (EHE) module
- CWM-related hazards are evaluated using the Chemical Warfare Materiel Hazard Evaluation (CHE) module
- Health and environmental hazards posed by MC are evaluated using the Relative Risk Site Evaluation (RRSE) module.

DoD recognizes that sufficient data to apply all three of the hazard evaluation modules may not be immediately available for some munitions response sites. In such cases where data are available for only one or two of the modules, the priority will be assigned based on the modules for which sufficient data are available. This initial priority may change when additional data are collected and all three modules are evaluated. Modules for which there are insufficient data will be assigned a status of "evaluation pending."

Upon completion of all necessary munitions responses at a munitions response site, the status "prioritization no longer required" will be assigned. The sequencing of munitions response sites for environmental restoration activities will be based primarily on the priority assigned using this Protocol, but may also reflect other relevant information, such as stakeholder concerns, economic issues, and program management considerations.

Instructions

Enter the appropriate score for each "Classification" in the "Site Score" column. Enter the highest Site Score in the last row of each table. Transfer the scores from Table 1 through 9 to Table 10. Follow the matrix presented in Table 10 to determine the EHE rating. Repeat this process to determine the CHE rating (Table 20) and RRSE rating (Table 24).

EHE Site Scores are calculated in Tables 1 through 9. The EHE rating is calculated in Table 10. CHE Site Scores are calculated in Tables 11 through 19. The CHE rating is calculated in Table 20. RRSE Site Scores are calculated in Tables 21 through 23. The RRSE rating is calculated in Table 24. The Site Priority based on the three hazard evaluations (EHE, CHE, and RRSE) is calculated in Table 25. The value determined in Table 25 is used to determine the priority of the site.

Table 1: Classifications Within the EHE Munitions Type Element (These definitions only apply for the purposes of the Munitions Response Site Prioritization Protocol)			
Classification	**Definition**	**Score**	**Site Score**
Sensitive	· All UXO that are considered likely to function upon any interaction with exposed persons, including: submunitions, cluster munitions, 40mm high-explosive grenades, white phosphorus (WP) munitions (including practice munitions with sensitive fuzes, but excluding all other practice munitions), and high-explosive anti-tank (HEAT) munitions · All hand grenades containing an explosive filler	30	–
High explosive (used or damaged)	· All UXO containing a high-explosive filler (e.g., RDX, Composition B) that are not considered "sensitive" · All DMM containing a high-explosive filler that have been damaged by burning or detonation · All DMM containing a high-explosive filler that have deteriorated to the point of instability	25	–
Pyrotechnic	· All UXO containing pyrotechnic fillers other than white phosphorous (e.g., flares, signals, simulators, smoke grenades) · All DMM containing pyrotechnic fillers other than white phosphorous (e.g., flares, signals, simulators, smoke grenades) that have been damaged by burning or detonation or that have deteriorated to the point of instability	20	–
High explosive (unused)	· All DMM containing a high-explosive filler that have not been damaged by burning or detonation · All DMM containing a high explosive filler that are not deteriorated to the point of instability	15	–
Propellant	· All UXO containing only a single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) · All DMM containing only a single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor)	15	–
Bulk HE, pyrotechnics, or propellant	· Bulk high explosives, including: demolition charges (e.g., C4 blocks), high explosives not contained in a munition, and concentrated mixtures of high explosives or other munitions constituents mixed with environmental media or debris in concentrations that result in the mixture being explosive (e.g., "explosive soil") · All pyrotechnic material that is not contained in a munition (i.e., "bulk pyrotechnics") · All single-, double-, or triple-based propellant, or composite propellants that are not contained in a munition (i.e., "bulk propellant")	10	–
Practice	· All UXO that are a practice munition not associated with a sensitive fuze · All DMM that are a practice munition not associated with a sensitive fuze that have been damaged by burning or detonation	5	–

	· All DMM that are a practice munition not associated with a sensitive fuze that have deteriorated to the point of instability		
Riot control	· All UXO or DMM containing only a riot control agent (e.g., tear gas)	3	–
Small arms	· All UXO or DMM that are classified as small arms ammunition. Evidence that no other munitions type (e.g., grenades, subcaliber training rockets, demolition charges) was used or is present on the MRS is required for selection of this category.	2	2
Evidence of no munitions	· Following investigation of the MRS, there is physical evidence there are no UXO or DMM present or there is historical evidence indicating that no UXO or DMM are present.	0	0
EHE Munitions Type Score (Maximum 30 points)		2	

N t s:

- *Former* (as in "former range") means the MRS is a location that was: (1) closed by a formal decision made by the DoD Component with administrative control over the location, or (2) put to a use incompatible with the presence of UXO, DMM, or MC.
- *Historical evidence* means that the investigation: (1) found written documents or records, or (2) documented interviews of persons with knowledge of site conditions, or (3) found and verified other forms of information.
- *Physical evidence* means: (1) recorded observations from on-site investigations, such as finding intact UXO or DMM, or components, fragments, or other pieces of military munitions, or (2) the results of field or laboratory sampling and analysis procedures, or (3) the results of geophysical investigations.
- *Practice munitions* means munitions that contain an inert filler (e.g., wax, sand, concrete), a spotting charge (i.e., a pyrotechnic charge), and a fuze.
- The term *small arms ammunition* means solid projectile ammunition that is .50 caliber or smaller and shotgun shells.

What evidence do you have regarding the EHE Munitions Type Score? Based on interviews with Environmental Personnel and available documents regarding operations at the former Carr Point Shooting Range, only shot guns were used at the Carr Point Shooting Range. No other ordnance, explosives, or weapons are reported to have been used or stored at the range.

Table 2: Classifications Within the EHE *Source of Hazard* Element (These definitions only apply for the purposes of the Munitions Response Site Prioritization Protocol)			
Classification	**Definition**	**Score**	**Site Score**
Former ranges	· The MRS is a former military range where munitions (including practice munitions with sensitive fuzes) have been used. Such areas include: impact or target areas, associated buffer and safety zones, firing points, and live-fire maneuver areas.	10	–
Former OB/OD units	· The MRS is a location where UXO or DMM (e.g., munitions, bulk explosives, bulk pyrotechnic, or bulk propellants) were burned or detonated for the purpose of treatment prior to disposal.	7	–
Former ranges (practice munitions only)	· The MRS is a former range on which only practice munitions without sensitive fuzes were used.	6	–
Man uver areas only	· The MRS is a former maneuver area where no munitions other than flares, simulators, smokes, and blanks were used. There must be evidence that no other munitions were used at the location to place an MRS into this category.	6	–
Burial pits	· The MRS is a location where DMM were buried or disposed of (e.g., disposed of into a water body) without prior thermal treatment.	5	–
Sites containing former industrial operating facilities	· The MRS is a location that is a former munitions manufacturing or demilitarization facility.	4	–
F rmer Firing Points	· The MRS is a firing point, when the firing point is delineated as an MRS separate from the rest of a former range.	4	–
Former missile or ADA emplacements	· The MRS is a former missile defense or air defense artillery (ADA) emplacement not associated with a range.	2	–
Former storage or transfer sites	· The MRS is a location where munitions were stored or handled for transfer between modes (e.g., rail to truck, truck to weapon system).	2	–
Former small arms range	· The MRS is a former military range where only small arms were used. There must be evidence that no other type of munitions (e.g., grenades) were used or are present at the location to place an MRS into this category.	1	1
Evidence of no munitions	· Following investigation of the MRS, there is physical evidence that no UXO or DMM are present, or there is historical evidence indicating that no UXO or DMM are present.	0	0
EHE Source of Hazard Score (Maximum 10)		1	

Notes:

- *Former* (as in "former range") means the MRS is a location that was: (1) closed by a formal decision made by the DoD Component with administrative control over the location, or (2) put to a use incompatible with the presence of UXO, DMM, or MC.
- *Historical evidence* means that the investigation (1) found written documents or records, or (2) documented interviews of persons with knowledge of site conditions, or (3) found and verified other forms of information

- *Physical evidence* means: (1) recorded observations from on-site investigations, such as finding intact UXO or DMM, or components, fragments, or other pieces of military munitions, or (2) the results of field or laboratory sampling and analysis procedures, or (3) the results of geophysical investigations.
- *Practice munitions* means munitions that contain an inert filler (e.g., wax, sand, concrete), a spotting charge (i.e., a pyrotechnic charge), and a fuze.
- The term *small arms ammunition* means solid projectile ammunition that is .50 caliber or smaller and shotgun shells

What evidence do you have regarding the EHE Source of Hazard Score? Interview with Environmental Personnel and available documents regarding range operations. (See explanation for Table 1 regarding operations at the former Carr Point Shooting Range).

Table 3: Classifications Within the EHE *Information on the Location of Munitions* Data Element (These definitions only apply for the purposes of the Munitions Response Site Prioritization Protocol)			
Classification	**Description**	**Score**	**Site Score**
Confirmed surface	· Physical evidence indicates there are UXO or DMM on the surface of the MRS · Historical evidence (e.g., a confirmed incident report or accident report) indicates there are UXO or DMM on the surface of the MRS.	25	–
Confirmed subsurface, active	· Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed in the future by naturally occurring phenomena (e.g., drought, flooding, erosion, frost, heat heave, tidal action), or there are on-going intrusive activities (e.g., plowing, construction, dredging) at the MRS that are likely to expose UXO or DMM. · Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed in the future by naturally occurring phenomena (e.g., drought, flooding, erosion, frost, heat heave, tidal action), or there are on-going intrusive activities (e.g., plowing, construction, dredging) at the MRS that are likely to expose UXO or DMM.	20	–
Confirmed subsurface, stable	· Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed in the future by naturally occurring phenomena, or there are no intrusive activities occurring at the MRS that are likely to either occur, or if the activities do occur, are likely to cause UXO or DMM to be exposed. · Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed in the future by naturally occurring phenomena, or there are no intrusive activities occurring at the MRS that are likely to either occur, or if the activities do occur, are likely to cause UXO or DMM to be exposed.	15	–
Suspected (physical evidence)	· There is physical evidence other than the documented presence of UXO or DMM, indicating that UXO or DMM may be present at the MRS.	10	–
Suspected (historical evidence)	· There is historical evidence indicating that UXO or DMM may be present at the MRS.	5	–
Subsurface, physical constraint	· There is physical or historical evidence indicating the UXO or DMM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the UXO or DMM.	2	–

Table 3: Classifications Within the EHE *Information on the Location of Munitions* Data Element (These definitions only apply for the purposes of the Munitions Response Site Prioritization Protocol)			
Classification	**Description**	**Score**	**Site Score**
Small arms (regardless of location)	· The presence of small arms ammunitions is confirmed or suspected, regardless of other factors such as geological stability. There must be evidence that no other types of munitions (e.g., grenades) were used or are present at the MRS to include it in this category.	1	1
Evid nce of no munitions	· Following investigation of the MRS, there is physical evidence there are no UXO or DMM present or there is historical evidence indicating that no UXO or DMM are present.	0	0
EHE Information on the Location of Munitions Score (Maximum 25)		1	

Notes:

- *Historical evidence* means that the investigation: (1) found written documents or records, or (2) documented interviews of persons with knowledge of site conditions, or (3) found and verified other forms of information.
- *Physical evidence* means: (1) recorded observations from on-site investigations, such as finding intact UXO or DMM, or components, fragments, or other pieces of military munitions, or (2) the results of field or laboratory sampling and analysis procedures, or (3) the results of geophysical investigations.
- *In the subsurface* means the munition (i.e., a DMM or UXO) is (1) entirely beneath the ground surface, or (2) fully submerged in a water body.
- *In the subsurface* means the munition (i.e., a DMM or UXO) is (1) entirely beneath the ground surface, or (2) fully submerged in a water body.
- *On the surface* means the munition (i.e., a DMM or UXO) is: (1) entirely or partially exposed above the ground surface, or (2) entirely or partially exposed above the surface of a water body (e.g., as a result of tidal activity).
- The term *small arms* am*munition* means solid projectile ammunition that is .50 caliber or smaller and shotgun shells.

What evidence do you have regarding the EHE Information on the Location of Munitions Score?

Interview with Environmental Personnel and available documents regarding range operations. (See explanation for Table 1 regarding operations at the former Carr Point Shooting Range).

Table 4: Classifications Within the EHE *Ease of Access* Element (These definitions only apply for the purpose of the Munitions Response Site Prioritization Protocol)			
Classification	**Definition**	**Score**	**Site Score**
No barrier	· There is no barrier preventing access to all parts of the MRS (i.e., all parts of the MRS are accessible).	10	10
Barrier to MRS access is incomplete	· There is a barrier preventing access to parts of the MRS but not the entire MRS.	8	–
Barrier to MRS access is complete but not monitored	· There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5	–
Barrier to MRS access is complete and monitored	· There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0	0
EHE Ease of Access Score (Maximum 10)		10	
Notes: · *Barrier* means a natural obstacle or obstacles (e.g., difficult terrain, dense vegetation, deep or fast moving water), a man-made obstacle or obstacles (e.g., fencing), or a combination of natural and man-made obstacles.			

What evidence do you have regarding the EHE Ease of Access Score? The former Carr Point Shooting Range is located on Navy property. Users of the recreational vehicle (RV) park which now occupies the site may use the site for up to two weeks, and must register with the Navy's Morale, Welfare, and Recreation Department (MWR) to use the property. Some fencing is present at the edge of the grounds, before the embankments to the beach, but the entire area is not fenced. The NAVSTA Navy Security Department patrols the area on a daily basis.

Table 5: Classifications Within the EHE *Status of Property* Element (These definitions only apply for the purposes of the Munitions Response Site Prioritization Protocol)			
Classification	**Definition**	**Score**	**Site Score**
Non-DoD Control	· The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by the DoD. Examples are privately owned land or water bodies; land or water bodies owned or controlled by American Indian or Alaskan Native Tribes, or State or local governments; and lands or water bodies managed by other Federal agencies.	5	–
Scheduled for transfer from DoD control	· The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD, and DoD plans to transfer that land or water body to the control of another entity (e.g., a State, American Indian, Alaskan Native, or local government; a private party; or another Federal agency) within 3 years from the date the Protocol is applied.	3	–
DoD Control	· The MRS is on land or is a water body that is owned, leased, or otherwise possessed by the DoD. With respect to property that is leased or otherwise possessed, DoD must control access to the MRS 24-hours per day, every day of the calendar year.	0	0
EHE Status of Property Score (Maximum 5)		0	

What evidence do you have regarding the EHE Status of Property Score? The site is on DoD-owned and controlled property.

Table 6: Classifications Within the EHE *Population Density* Element (These definitions only apply for the purposes of the Munitions Response Site Prioritization Protocol)			
Classification	**Definition**	**Score**	**Site Score**
> 500 persons per sq. mile	There are more than 500 persons per square mile in the county in which the MRS is located, based on U.S. Census Bureau data.	5	5
100 - 500 persons per sq. mile	There are 100 to 500 persons per square mile in the county in which the MRS is located, based on U.S. Census Bureau data.	3	–
< 100 persons per sq. mile	There are fewer than 100 persons per square mile in the county in which the MRS is located, based on U.S. Census Bureau data.	1	–
EHE Population Score (Maximum 5)		5	

Notes:

- If an MRS is in more that one county, the DoD Component will use the largest population value among the counties. If the MRS is within or borders a city or town, the population density for the city or town instead of the county population density is used.

What evidence do you have regarding the EHE Population Score? According to the U.S. Census Bureau, the 2001 population was estimated at 85,218 people in Newport County. The number of persons per square mile in the year 2000 was estimated at 821.1.

Table 7: Classifications Within the EHE *Population Near Hazard* Element (These definitions only apply for the purposes of the Munitions Response Site Prioritization Protocol)			
Classification	**Definition**	**Score**	**Site Score**
26 or more buildings	· There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5	–
16 to 25	· There are 16 - 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4	–
11 to 15	· There are 11 - 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3	–
6 t 10	· There are 6 - 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2	2
1 to 5	· There are 1 - 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1	–
0	· There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0	–
EHE Population Score (Maximum 5)		2	

Not s:

The term *inhabited structures* means permanent or temporary structures, other than DoD munitions-related structures, that are routinely occupied by one or more persons for any portion of a day.

What evidence do you have regarding the EHE Population Score? According to installation maps and figures, several Navy buildings (operations buildings, storage areas) and structures outside the installation boundaries are located within 2 miles of the Carr Point Shooting Range.

Table 8: Classifications Within the EHE *Types of Activities/Buildings* Element (These definitions only apply for the purposes of the Munitions Response Site Prioritization Protocol)			
Classification	**Definition**	**Score**	**Site Score**
Residential, educational, etc.	· Activities are conducted or inhabited structures are located up to 2 miles from the MRS's boundary or, within the MRS's boundary that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, play grounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering.	5	–
Parks and recreation areas	· Activities are conducted or inhabited structures are located up to 2 miles from the MRS's boundary or within the MRS's boundary that are associated with parks, nature preserves or other recreational uses.	4	4
Agricultural, forestry, subsistence	· Activities are conducted or inhabited structures are located up to 2 miles from the MRS's boundary or within the MRS's boundary that are associated with agriculture or forestry.	3	–
Industrial or warehousing, etc.	· Activities are conducted or inhabited structures are located up to 2 miles from the MRS's boundary or within the MRS's boundary that are associated with industrial activities or warehousing.	2	2
No known or recurring activities	· There are no known or recurring activities occurring up to 2 miles from the MRS's boundary or within the MRS's boundary.	1	–
EHE Types of Activities/Buildings Score (Maximum 5)		4	
Not s: The term inhabited structures means permanent or temporary structures, other than DoD munitions-related structures, are routinely occupied by one or more persons for any portion of a day.			

What evidence do you have regarding the EHE Types of Activities/Building Score? Several Navy-owned buildings, as well as recreational areas (e.g., RV park, Carr Point Recreation Area) are located within 2 miles of the former Carr Point Shooting Range.

Table 9: Classifications Within the EHE *Ecological and/or Cultural Resources* Element (These definitions only apply for the purposes of the Munitions Response Site Prioritization Protocol)			
Classification	**Definition**	**Score**	**Site Score**
Ecological and Cultural	· There are both ecological and cultural resources present on the MRS.	5	–
Ecological	· There are ecological resources present on the MRS.	3	3
Cultural	· There are cultural resources present on the MRS.	3	–
Non	· There are no ecological resources or cultural resources present on the MRS.	0	–
EHE Ecological and/or Cultural Resources Score (Maximum 5)		3	

Notes:

- *Ecological resources* means that: (1) a threatened or endangered species (designated under the Endangered Species Act (ESA)) is present on the MRS; or (2) the MRS is designated under the ESA as critical habitat for a threatened or endangered species; or (3) there are identified sensitive ecosystems such as wetlands or breeding grounds present on the MRS.
- *Cultural resources* means there are recognized cultural, traditional, spiritual, religious, or historical features (e.g., structures, artifacts, symbolism) on the MRS. For example, American Indians or Alaska Natives deem the MRS to be of religious significance or there are areas that are used by American Indians or Alaska Natives for subsistence activities (e.g., hunting, fishing). Requirements for determining if a particular feature is a cultural resource are found in the National Historic Preservation Act, Native American Graves Protection and Repatriation Act, Archeological Resources Protection Act, Executive Order 13007, and the American Indian Religious Freedom Act.

What evidence do you have regarding the EHE Ecological and/or Cultural Resources Score?

The U.S. Fish and Wildlife Service reported in 1998 that "several federally listed endangered or threatened species may be present in the waters of Narragansett Bay off of NAVSTA Newport. Marine turtles including the threatened loggerhead (*Caretta caretta*), the endangered green (*Chelonia mydas*), and Kemp's ridley (*Lepidochelys kempii*) occur in the Bay." While these species may not necessarily have been observed at the Carr Point Shooting Range, a "3" has been assigned for "Ecological Resources" since it is possible for these species to appear at or on the site.

According to the 1995 Cultural Resources Survey, there are no known cultural resources on the former site. Such resources have been located in the vicinity of the Carr Point Shooting Range, but not within its boundaries, and are described below.

There is one area of archaeological sensitivity in the vicinity of the former Carr Point Shooting Range: Site RI-942.2, a previously identified locality for which insufficient information is available to determine whether or not the area is eligible for inclusion on the National Register. The Cultural Resources Survey of 1995 identified one resource that meets the National Register criteria in the vicinity of the former Carr Point Shooting Range; this area is the Melville Fuel Depot and Net Depot facilities, including the associated fuel tank farms at the areas known as Melville South and Midway. These fuel tank farms are the former Tank Farms 3 and 4, which are located approximately ¼-mile to the northeast and southeast of the former Carr Point Shooting Range, respectively.

Table 10: Explosive Hazard Evaluation Module (These definitions only apply for the purposes of the Munitions Response Site Prioritization Protocol)			
Factor	**Element**	**Table**	**Score**
Explosive Hazard	Munitions Type	1	2
	Source of Hazard	2	1
Accessibility	Location of Munitions	3	1
	Ease of Access	4	10
	Status of Property	5	0
Receptors	Population Density	6	5
	Population Near Hazard	7	2
	Types of Activities/Buildings	8	4
	Ecological and/or Cultural Resources	9	3
Sum of Data Element Scores from Tables 1-9			**28**

The Explosive Hazard Evaluation rating is determined by selecting the appropriate hazard score based on the sum of the nine data elements

Hazard Evaluation	Score Ranges
Hazard Evaluation A (Highest)	≥92
Hazard Evaluation B	82-91
Hazard Evaluation C	71-81
Hazard Evaluation D	60-70
Hazard Evaluation E	48-59
Hazard Evaluation F	38-47
Hazard Evaluation G (Lowest)	**0-37**
Evaluation Pending	EP
No Longer Required	NLR
No Known or Suspected Explosive Hazard	

Explosive Hazard Evaluation Rating	**G**

Table 11: Classifications Within the CHE *CWM Configuration* Element (These definitions only apply for the purposes of the Munitions Response Site Prioritization Protocol)			
Classification	**Definition**	**Score**	**Site Score**
CWM, explosive configuration, either UXO or damaged DMM	The CWM known or suspected of being present at the MRS is: · Explosively configured CWM that are UXO (i.e., CWM/UXO) · Explosively configured CWM that are DMM that have been damaged (CWM/DMM).	30	–
CWM mixed with UXO	· The CWM known or suspected of being present at the MRS are CWM/DMM that are co-mingled with conventional munitions that are UXO.	25	–
CWM, explosive configuration that are DMM (unused)	· The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged.	20	–
CWM, not-explosively configured or CWM, bulk container	The CWM known or suspected of being present at the MRS is: · Non-explosively configured CWM/DMM · Bulk CWM/DMM (e.g., ton container).	15	–
CAIS K941 and CAIS K942	· The CWM/DMM known or suspected of being present at the MRS is CAIS K941-toxic gas set M-1 or CAIS K942-toxic gas set M-2/E11.	12	–
CAIS (chemical agent identification sets)	· The CWM known or suspected of being present at the MRS are only CAIS/DMM. The CAIS present cannot include CAIS K941, toxic gas set M-1; and K942, toxic gas set M-2/E11 for the MRS to be assigned this rating.	10	–
Evidence of no CWM	· Following investigation, the physical evidence indicates that CWM are not present at the MRS, or the historical evidence indicates that CWM are not present at the MRS.	0	0
CHE CWM Configuration Score (Maximum 30)		0	

Notes:

· The notation *CWM/DMM* means CWM that are DMM.

· The term *CWM /UXO* means CWM that are UXO.

· *Historical evidence* means that the investigation: (1) found written documents or records, or (2) documented interviews of persons with knowledge of site conditions, or (3) found and verified other forms of information.

· *Physical evidence* means: (1) recorded observations from on-site investigations, such as finding intact UXO or DMM, or components, fragments, or other pieces of military munitions, or (2) the results of field or laboratory sampling and analysis procedures, or (3) the results of geophysical investigations.

What evidence do you have regarding the CHE CWM Configuration Score? Environmental personnel and review of documents indicated that chemical warfare materiel is not located at the former Carr Point Shooting Range.

Table 12: Classifications Within the CHE *Sources of CWM* Element (These definitions only apply for the purposes of the Munitions Response Site Prioritization Protocol)			
Classification	**Definition**	**Score**	**Site Score**
Live-fire involving CWM	· The MRS is a range that supported live-fire of explosively configured CWM, and the CWM/UXO are known or suspected of being present on the surface or in the subsurface. · The MRS is a range that supported live-fire with conventional munitions, and CWM/DMM are on the surface or in the subsurface co-mingled with conventional munitions that are UXO.	10	–
Damaged CWM/DMM or CAIS/DMM, surface or subsurface	· There are damaged CWM/DMM on the surface or in the subsurface at the MRS.	10	–
Undamaged CWM/DMM or CAIS/DMM, surface	· There are undamaged CWM/DMM on the surface at the MRS.	10	–
Undamaged CWM/DMM, or CAIS/DMM, subsurface	· There are undamaged CWM/DMM in the subsurface at the MRS.	5	–
Production facilities of CWM or CAIS	· The MRS is a facility that engaged in production of CWM, and there are CWM/DMM suspected of being present on the surface or in the subsurface.	3	–
Research, Development, Testing, and Evaluation (RDT&E) facility using CWM or CAIS	· The MRS is at a facility that was involved in non-live fire RDT&E activities (including static testing) involving CWM, and there are CWM/DMM suspected of being present on the surface or in the subsurface.	3	–
Training facility using CWM or CAIS	· The MRS is a location that was involved in training activities involving CWM and/or CAIS (e.g., training in recognition of CWA, decontamination training), and CWM/DMM are suspected of being present on the surface or in the subsurface.	2	–
Storage or transfer points of CWM	· The MRS is a former storage facility or transfer point (e.g., inter-modal transfer) for CWM.	1	–
Evidence of no CWM	· Following investigation, the physical evidence indicates that CWM are not present at the MRS, or the historical evidence indicates that CWM are not present at the MRS.	0	0

CHE Sources of CWM Score (Maximum 10)	0

Notes:

- *The notation CWM/DMM means CWM that are DMM.*
- *The term CWM /UXO means CWM that are UXO.*
- *Historical evidence* means that the investigation: (1) found written documents or records, or (2) documented interviews of persons with knowledge of site conditions, or (3) found and verified other forms of information.
- *Physical evidence* means: (1) recorded observations from on-site investigations, such as finding intact UXO or DMM, or components, fragments, or other pieces of military munitions, or (2) the results of field or laboratory sampling and analysis procedures, or (3) the results of geophysical investigations.
- *In the subsurface* means the CWM (e.g., a DMM or UXO) is: (1) entirely beneath the ground surface, or (2) fully submerged in a water body
- *On the surface* means the CWM (i.e., a DMM or UXO) is: (1) entirely or partially exposed above the ground surface, or (2) entirely or partially exposed above the surface of a water body (e.g., as a result of tidal activity).

What evidence do you have regarding the CHE Sources of CWM Score? Interviews with Environmental personnel and review of documents indicated that chemical warfare materiel was not used at the former Carr Point Shooting Range.

Table 13: Classifications Within the CHE *Information on the Location of CWM* Element (These definitions only apply for the purposes of the Munitions Response Site Prioritization Protocol)			
Classification	**Definition**	**Score**	**Site Score**
Confirmed surface	· Physical evidence indicates there are CWM on the surface of the MRS · Historical evidence (e.g., a confirmed incident report or accident report) indicates there are CWM on the surface of the MRS.	25	–
Confirmed subsurface, active	· Physical evidence indicates the presence of CWM in the subsurface of the MRS and the geological conditions at the MRS are likely to cause CWM to be exposed in the future by naturally occurring phenomena (e.g., drought, flooding, erosion, frost, heat heave, tidal action), or there are on-going intrusive activities (e.g., plowing, construction) at the MRS that are likely to expose CWM. · Historical evidence indicates that CWM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause CWM to be exposed in the future by naturally occurring phenomena (e.g., drought, flooding, erosion, frost, heat heave, tidal action), or there are on-going intrusive activities (e.g., plowing, construction, dredging) at the MRS that are likely to expose CWM.	20	–
Confirmed subsurface, stable	· Physical evidence indicates the presence of CWM in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause CWM to be exposed in the future by naturally occurring phenomena, or there are no intrusive activities occurring at the MRS that are likely to either occur, or if the activities do occur, are likely to cause CWM to be exposed. · Historical evidence indicates that CWM are located in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause CWM to be exposed in the future by naturally occurring phenomena, or there are no intrusive activities occurring at the MRS that are likely to either occur, or if the activities do occur, are likely to cause CWM to be exposed.	15	–
Suspected (physical evidence)	· There is physical evidence other than the documented presence of CWM, indicating that CWM may be present at the MRS.	10	–
Suspected (historical evidence)	· There is historical evidence indicating that CWM may be present at the MRS.	5	–
Subsurface, physical constraint	· There is physical or historical evidence indicating the CWM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the CWM.	2	–
Evidence of no CWM	· Following investigation of the MRS, there is physical evidence there is no CWM present, or there is historical evidence indicating that no CWM are present.	0	0

CHE Location of CWM Score (Maximum 25)	0

Notes:

- *Historical evidence* means that the investigation: (1) found written documents or records, or (2) documented interviews of persons with knowledge of site conditions, or (3) found and verified other forms of information.
- *Physical evidence* means: (1) recorded observations from on-site investigations, such as finding intact UXO or DMM, or components, fragments, or other pieces of military munitions, or (2) the results of field or laboratory sampling and analysis procedures, or (3) the results of geophysical investigations.
- *In the subsurface* means the munition (i.e., a DMM or UXO) is (1) entirely beneath the ground surface, or (2) fully submerged in a water body.
- *On the surface* means the CWM (e.g., a DMM or UXO) is (1) entirely or partially exposed above the ground surface, or (2) entirely or partially exposed above the surface of a water body(e.g., as a result of tidal activity).
- The term *small arms ammunition* means solid projectile ammunition that is .50 caliber or smaller and shotgun shells.

What evidence do you have regarding the CHE Location of CWM Score? Interviews with Environmental personnel and review of documents indicated that chemical warfare materiel is not located at the former Carr Point Shooting Range.

Table 14: Classifications Within the CHE *Ease of Access* Element (These definitions only apply for the purposes of the Munitions Response Site Prioritization Protocol)			
Classification	**Definition**	**Score**	**Site Score**
No barrier	· There is no barrier preventing access to all parts of the MRS (i.e., all parts of the MRS are accessible).	10	–
Barrier to MRS access is incomplete	· There is a barrier preventing access to parts of the MRS but not the entire MRS.	8	–
Barrier to MRS access is complete but not monitored	· There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5	–
Barrier to MRS access is complete and monitored	· There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0	–
CHE Ease of Access Score (Maximum 10)		NA	
Notes: *Barrier* means a natural obstacle or obstacles (e.g., difficult terrain, dense vegetation, deep or fast moving water), a man-made obstacle or obstacles (e.g., fencing), or a combination of natural and man-made obstacles.			

What evidence do you have regarding the CHE Ease of Access Score? Not applicable – chemical warfare materiel is not located at the former Carr Point Shooting Range.

Table 15: Classifications Within the CHE *Status of Property* Element (These definitions only apply for the purposes of the Munitions Response Site Prioritization Protocol)			
Classification	**Definition**	**Score**	**Site Score**
Non-DoD control	· The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by the DoD. Examples are privately owned land or water bodies; land or water bodies owned or controlled by American Indian or Alaskan Native Tribes, or State or local governments; and lands or water bodies managed by other Federal agencies.	5	–
Scheduled for transfer from DoD control	· The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD, and DoD plans to transfer that land or water body to control of another entity (e.g., a State, American Indian, Alaskan Native, or local government; a private party; another Federal agency) within 3 years from the date the Protocol is applied.	3	–
DoD control	· The MRS is on land or is a water body that is owned, leased, or otherwise possessed by the. With respect to property that is leased or otherwise possessed, DoD controls access to the property 24-hours per day, every day of the calendar year.	0	–
CHE Status of Property Score (Maximum 5)		NA	

What evidence do you have regarding the CHE Status of Property Score? Not applicable – interviews with Environmental personnel and review of documents indicated that chemical warfare materiel is not located at the former Carr Point Shooting Range.

Table 16: Classifications Within the CHE *Population Density* Element (These definitions only apply for the purposes of the Munitions Response Site Prioritization Protocol)			
Classification	**Definition**	**Score**	**Site Score**
> 500 persons per sq. mile	There are more than 500 persons per square mile in the county in which the MRS is located, based on U.S. Census Bureau data.	5	–
100 - 500 persons per sq. mile	There are 100 to 500 persons per square mile in the county in which the MRS is located, based on U.S. Census Bureau data.	3	–
< 100 persons per sq. mile	There are fewer than 100 persons per square mile in the county in which the MRS is located, based on U.S. Census Bureau data.	1	–
CHE Population Density Score (Maximum 5)		NA	

Notes:

- If an MRS is in more that one county, the DoD Component will use the largest population value among the counties. If the MRS is within or borders a city or town, the population density for the city or town instead of the county population density is used.

What evidence do you have regarding the CHE Population Density Score? Not Applicable.

Table 17: Classifications Within the CHE *Population Near Hazard* Element (These definitions only apply for the purposes of the Munitions Response Site Prioritization Protocol)			
Classification	**Definition**	**Score**	**Site Score**
26 or more buildings	· There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5	–
16 t 25	· There are 16 - 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4	–
11 to 15	· There are 11 - 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3	–
6 to 10	· There are 6 - 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2	–
1 t 5	· There are 1 - 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1	–
0	· There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0	–
CHE Population Score (Maximum 5)		NA	
Notes: The term *inhabited structures* means permanent or temporary structures, other than DoD munitions-related structures, that are routinely occupied by one or more persons for any portion of a day.			

What evidence do you have regarding the CHE Population Near Hazard Score? Not Applicable.

Table 18: Classifications Within the CHE *Types of Activities/Buildings* Element (These definitions only apply for the purposes of the Munitions Response Site Prioritization Protocol)			
Classification	**Definition**	**Score**	**Site Score**
Residential, educational, etc.	· Activities are conducted or inhabited structures are located up to 2 miles from the MRS's boundary or, within the MRS's boundary that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, play grounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering.	5	–
Parks and recreation areas	· Activities are conducted or inhabited structures are located up to 2 miles from the MRS's boundary or within the MRS's boundary that are associated with parks, nature preserves or other recreational uses.	4	–
Industrial or warehousing, etc.	· Activities are conducted or inhabited structures are located up to 2 miles from the MRS's boundary or within the MRS's boundary that are associated with agriculture or forestry.	3	–
Agricultural, forestry, subsistence	· Activities are conducted or inhabited structures are located up to 2 miles from the MRS's boundary or within the MRS's boundary that are associated with industrial activities or warehousing.	2	–
No known or recurring activities	· There are no known or recurring activities occurring up to 2 miles from the MRS's boundary or within the MRS's boundary.	1	–
CHE Types of Activities/Buildings Score (Maximum 5)		NA	
Not s: The term inhabited structures means permanent or temporary structures, other than DoD munitions-related structures, are routinely occupied by one or more persons for any portion of a day.			

What evidence do you have regarding the CHE Types of Activities/Buildings Score? Not Applicable.

Table 19: Classifications Within the CHE *Ecological and/or Cultural Resources* Element (These definitions only apply for the purposes of the Munitions Response Site Prioritization Protocol)			
Classification	**Definition**	**Score**	**Site Score**
Ecological and Cultural	· There are both ecological and cultural resources present on the MRS.	5	–
Ecological	· There are ecological resources present on the MRS.	3	–
Cultural	· There are cultural resources present on the MRS.	3	–
Non	· There are no ecological resources or cultural resources present on the MRS.	0	–
CHE Ecological and/or Cultural Resources Score (Maximum 5)		NA	

Not s:

- *Ecological resources* means that: (1) a threatened or endangered species (designated under the Endangered Species Act (ESA)) is present on the MRS; or (2) the MRS is designated under the ESA as critical habitat for a threatened or endangered species; or (3) there are identified sensitive ecosystems such as wetlands or breeding grounds present on the MRS.
- *Cultural resources* means there are recognized cultural, traditional, spiritual, religious, or historical features (e.g., structures, artifacts, symbolism) on the MRS. For example, American Indians or Alaska Natives deem the MRS to be of religious significance or there are areas that are used by American Indians or Alaska Natives for subsistence activities (e.g., hunting, fishing). Requirements for determining if a particular feature is a cultural resource are found in the National Historic Preservation Act, Native American Graves Protection and Repatriation Act, Archeological Resources Protection Act, Executive Order 13007, and the American Indian Religious Freedom Act.

What evidence do you have regarding the CHE Ecological or Cultural Resources Score? Not Applicable.

Table 20: Chemical Warfare Materiel Hazard Evaluation Module (These definitions only apply for the purposes of the Munitions Response Site Prioritization Protocol)			
Factor	**Element**	**Table**	**Score**
CWM Hazard	CWM Configuration	11	0
	Source of CWM	12	0
Accessibility	Location of CWM	13	0
	Ease of Access	14	NA
	Status of Property	15	NA
Receptors	Population Density	16	NA
	Population Near Hazard	17	NA
	Types of Activities/Buildings	18	NA
	Ecological and/or Cultural Resources	19	NA
Sum of Data Element Scores from Tables 11-19			NA
The CWM Hazard Evaluation is determined by selecting the appropriate hazard score based on the sum of the nine data elements Hazard Evaluation / Score Ranges Hazard Evaluation A (Highest) ≥92 Hazard Evaluation B 82-91 Hazard Evaluation C 71-81 Hazard Evaluation D 60-70 Hazard Evaluation E 48-59 Hazard Evaluation F 38-47 Hazard Evaluation G (Lowest) 0-37 Evaluation Pending EP No Longer Required NLR **No Known or Suspected CWM Hazard**			
Chemical Warfare Materiel Hazard Evalution Rating			**No Known or Suspected CWM Hazard**

Table 21: Classifications Within the RRSE *Contaminant Hazard* Factor (These definitions only apply for the purposes of the Munitions Response Site Prioritization Protocol)			
Classification	**Definition**	**Score**	**Site Score**
CHF > 100	The sum of the ratios (maximum concentration/comparison value) of the concentration of contaminants in each medium (i.e., soil, surface water, groundwater, or sediment) is greater than 100.	Significant	–
CHF 2 – 100	The sum of the ratios (maximum concentration/comparison value) of the concentration of contaminants in each medium (i.e., soil, surface water, groundwater, or sediment) is between 2 and 100.	Moderate	–
CHF < 2	The sum of the ratios (maximum concentration/comparison value) of the concentration of contaminants in each medium (i.e., soil, surface water, groundwater, or sediment) is less than 2.	Minimal	–
RRSE Contaminant Concentration Score		NA	

What evidence you have regarding the RRSE Contaminant Concentration Score? Not applicable – insufficient data available to assign a score.

Table 22: Classifications Within the RRSE *Migration Pathway* Factor (These definitions only apply for the purposes of the Munitions Response Site Prioritization Protocol)		
Classification/Definition	**Score**	**Site Score**
Analytical data or observable evidence indicates that contamination in the media is present at, is moving toward, or has moved to a point of exposure.	Evident	–
Contamination in the media has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	Potential	Potential
Low possibility for contamination in the media to be present at or migrate to a point of exposure.	Confined	–
RRSE Migration Pathway Score	Potential	

What evidence do you have regarding the RRSE Migration Pathway Score? Based on the RRSE Primer, if insufficient information exists to support a Migration Pathway score of "Evident" or "Confined", then the score defaults to "Potential". In addition, there was observation of clay pigeon fragments on the beach as well as shell casings and it is known that the fall out was in the water. Thus, site specific information also supports the "Potential" classification for the Migration Pathway score.

Table 23: Classifications Within the RRSE *Human or Sensitive Ecological Species/Environment Receptor* Factor (These definitions only apply for the purposes of the Munitions Response Site Prioritization Protocol)		
Classification/Definition	**Score**	**Site Score**
Identified receptors have access to contaminated media.	Identified	Identified
Potential for receptors to have access to contaminated media.	Potential	–
Little or no potential for receptors to have access to contaminated media.	Limited	–
RRSE Receptors Score	Identified	

What evidence do you have regarding the RRSE Receptors Score? Based on the unrestricted access to the site by human and ecological receptors, as well as the remnants of clay pigeons and shotgun shells observed at the site, the score for this category is assigned "Identified".

Table 24: Relative Risk Site Evaluation Module (Sum of Tables 21-23) (These definitions only apply for the purposes of the Munitions Response Site Prioritization Protocol)				
Contaminant Hazard Factor	**Receptor Factor**	**Migration Pathway Factor**		
		Evident	**Potential**	**Confined**
Significant	**Identified**	High	High	Medium
	Potential	High	High	Medium
	Limited	Medium	Medium	Low
Moderate	**Identified**	High	High	Low
	Potential	High	Medium	Low
	Limited	Medium	Low	Low
Minimal	**Identified**	High	Medium	Low
	Potential	Medium	Low	Low
	Limited	Low	Low	Low
Evaluation Pending *				
No Longer Required *				

Based on the Migration Pathway Factor score of "Potential" and the Receptor Factor score of "Identified", the score for this section would be either "High" or "Medium", depending on the Contaminant Hazard Factor score.

TABLE 25: Site Priority Based on Highest Hazard Evaluation Rating
(These definitions only apply for the purposes of the Munitions Response Site Prioritization Protocol)

Instructions: The site priority is determined by:

1. Finding the individual hazard evaluation rating for each of three hazard modules evaluated (i.e., Explosive Hazard, CWM Hazard, and Relative Risk)
2. Selecting the highest hazard evaluation rating (lowest number) from among the modules evaluated

Explosive Hazard Evaluation		CWM Hazard Evaluation		Relative Risk Site Evaluation	
Hazard Evaluation	**Priority**	**Hazard Evaluation**	**Priority**	**Hazard Evaluation**	**Priority**
		A (Highest)	**1**		
A (Highest)	**2**	**B**	**2**	**High**	**2**
B	**3**	**C**	**3**		
C	**4**	**D**	**4**		
D	**5**	**E**	**5**	**Medium**	**5**
E	**6**	**F**	**6**		
F	**7**	**G (Lowest)**	**7**		
G (Lowest)	**8**			**Low**	**8**
No Longer Required		**No Longer Required**		**No Longer Required**	
Evaluation Pending		**Evaluation Pending**		**Evaluation Pending**	
No Known or Suspected Explosive Hazard		**No Known or Suspected CWM Hazard**		**(Insufficient data available to assign a score) (see Note)**	

* A "prioritization no longer required" rating is used to indicate that a site no longer requires prioritization. This designation is used only when all three modules are rated as "no longer required" or "no known or suspected explosive hazard" or "no known or suspected CWM hazard."

Note: As indicated in the note accompanying Table 24 (page 31) an RRSE priority of 2 or 5 can be assigned pending further data collection to verify the contaminant hazard factor.

ENCLOSURE 3

Naval Station Newport RACER Cost Analysis Report

NAVSTA Newport, Rhode Island
RACER Cost Estimate Report

RANGE: Carr Point Shooting Range

Description:

The former Carr Point Shooting Range was used as a recreational skeet range by Navy personnel from 1967 to 1973, and by the Aquidneck Island Military Rod and Gun Club from 1975 to 1989. During its use as a skeet range, clay pigeons were launched toward Narragansett Bay, and small arms (i.e., shotguns) were fired at the targets as they flew over the water. Three firing points were previously located at the site. These firing points were located along the west side of the site, and were situated so that shooters would fire in the direction of Narragansett Bay. As such, targets and ammunition dropped into the water (and in some cases, onto the beach), with shells and casings released at the firing point. Since the firing line was approximately 25 to 60 yards from the water, the lead shot is expected to have landed in the water based on the firing fan of shotguns that would have been used at the recreational range. The area with potential target fragment accumulation is 100 yards, while the area with potential lead shot accumulation extends to 300 yards, as recommended by U.S. Navy guidance (U.S. Naval Aerotechnical Shore Facilities Programming Guide, 1958). Because the shots were fired over water, there was no berm or similar ground feature to act as a backstop for spent ammunition. According to installation personnel, there has been no investigation, remediation, excavation, or cleanup of munitions-related constituents at the site. As such, no analytical data are available for the site.

Malcolm Pirnie recommends collection of soil samples at the Carr Point Shooting Range. Based on the use of the site as a recreational skeet shooting facility, Malcolm Pirnie recommends analysis of soil samples for semi-volatile organic compounds (SVOCs) and

metals (e.g., lead). For the purposes of this cost estimate, Malcolm Pirnie assumed that soil samples would be collected as follows:

- At 5 locations in the firing area (one of which would be behind the firing area, to serve as a "background" sample; another would be located laterally from the firing area, and outside of the firing area), soil samples would be collected by hand auger from 0-2 feet and 2-4 feet for a total of 10 soil samples.
- At 3 locations in the beach area, samples would be collected by hand auger from 0-0.5 feet and 0.5-1.5 feet for a total of 6 samples.

This yields a total of 16 soil samples (8 from the surface soil, 8 from the subsurface soil), each of which would be analyzed for SVOCs and metals.

As part of the soil investigation, it is recommended that a literature search be conducted for similar sites where risk assessment and analysis have been performed regarding the potential impacts on the water environment due to clay pigeon fragments (which contain polycyclic aromatic hydrocarbons) and lead shot.

With regard to groundwater, chemicals of potential concern may be subject to mobilization through soil. Any munitions constituents remaining in the soil are expected to lie in the surface (i.e., 0 to 12 inches). Groundwater at the site is 5 to 12 feet below ground surface in the area of the firing points and near the ground surface in the area of Narragansett Bay. Based on the proximity of the Carr Point Shooting Range to Narragansett Bay, groundwater is expected to be tidally influenced. While groundwater may discharge to Narragansett Bay, the brackish conditions of this water body are likely to degrade chemicals that may be transported from the site. The sandy/estuarine areas below the ground surface in the area of the rocky beach are likely to be highly porous, allowing water from Narragansett Bay to flow in and out of the subsurface of the site easily, thus promoting attenuation of any lead that may be present in the groundwater. Furthermore, groundwater in the area of the Carr Point Shooting Range is not used for potable purposes. Therefore, groundwater is not of primary concern at the site. Based on these considerations, collection of groundwater samples is not currently recommended at the Carr Point Shooting Range. If soil sampling results indicate that residual

contaminants in soil are in excess of regulatory criteria/standards and suggest that groundwater infiltration may be a significant pathway for unreasonable risk to human and/or ecological health, then a groundwater investigation may be recommended as appropriate.

With regard to the water-based portion of the Carr Point Shooting Range (i.e., the portion of Narragansett Bay that is within the Surface Danger Zone and Target Area as depicted in Figure 5-2 of the Final WAMS Report), a Preliminary Assessment is recommended. Such a study would provide summaries of the potential hazards from MEC and/or MC, and recommendations for further investigation as appropriate.

Technologies Selected

The RACER technology estimated for the Carr Point Shooting Range is a Site Inspection with surface and subsurface soil sampling.

Site Inspection – Total Cost $74,719

Tasks Included:
Planning
Site Visit
Sampling and Analysis

Planning

Data Review
SI Work Plan
SI Supplemental Plans (Health & Safety, Sampling & Analysis, Investigation Derived Waste)

Site Investigation

Provide Fieldwork Support
Data Validation
Compose SI Report
Complete Revised HRS Scoring Package - NOT INCLUDED
Implement Community Relations Plan

Sampling and Analysis

Surface Soil
TAL Metals
Polycyclic Aromatic Hydrocarbons (PAHs)

Subsurface Soil
TAL Metals
PAHs
Include QA/QC Samples

Media
Surface Soil – 8 Samples
Subsurface Soil – 8 Samples (avg. depth 2 ft)

Methodology
Hand Auger
Turnaround Time – standard
Quality Control – Level 4

Site Distance – 250 miles
Site Complexity – low

Cost Summary Report

	Direct Cost	Marked Up Cost

Folder: NAVSTA Newport

Project Name:	NAVSTA Newport PA
Project Number:	NAVSTA Newport PA
Cost Database Date:	2005
Cost Type:	User-Defined
Description:	Former Skeet Range - Carr Point Shooting Range
Site Name:	Carr Point Shooting Range
Site Number:	Carr Point Shooting Range
Description:	Former Skeet Range
Program:	Superfund Remedial

Estimator Information:

Name:	Conrad Bernier
Title:	Associate
Agency/Org./Office:	Malcolm Pirnie, Inc.
Business Address:	1101 Wilson Blvd. Suite 1400 Arlington, VA 22203
Phone:	703-465-4225
Email:	cbernier@pirnie.com
Prepared Date:	08/02/2005

Reviewer Information:

Name:	John Logigan
Title:	Associate
Agency/Org./Office:	Malcolm Pirnie, Inc.
Business Address:	104 Corporate Park Drive White Plains, NY 10602
Phone:	914-641-2690
Email:	jlogigan@pirnie.com
Date Reviewed:	08/03/2005

Phase Name:	PA/SI
Phase:	Pre-Study
Description:	SI of Former Skeet Range

Technology:	**Site Inspection**		**#**	**1**
Total Site Inspection Technology		**31,885**		**74,719**
Total Phase PA/SI		**31,885**		**74,719**
Total Site Carr Point Shooting Range		**31,885**		**74,719**
Total Project NAVSTA Newport PA		**31,885**		**74,719**

Note: This report shows first year costs.

Cost Summary Report

	Direct Cost	Marked Up Cost
Total Folder NAVSTA Newport	**31,885**	**74,719**

Note This report shows first year costs.

Technology Detail Report
(with Markups)

Fold r: NAVSTA Newport

Proj ct

Name: NAVSTA Newport PA
ID: NAVSTA Newport PA
Location: NEWPORT, RHODE ISLAND
Modifiers: **Material** 1.027
Labor 1.343
Equipment 1.057
Category: None
Report Option: Fiscal Year
Description: Former Skeet Range - Carr Point Shooting Range

Sit

Name: Carr Point Shooting Range
ID: Carr Point Shooting Range
Type: None
Description: Former Skeet Range
Program: Superfund Remedial

Estimator Information:

Name: Conrad Bernier
Title: Associate
Agency/Org./Office: Malcolm Pirnie, Inc.
Business Address: 1101 Wilson Blvd. Suite 1400
Arlington, VA 22203
Phone: 703-465-4225
Email: cbernier@pirnie.com
Prepared Date: 08/02/2005

R viewer Information:

Name: John Logigan
Title: Associate
Agency/Org./Office: Malcolm Pirnie, Inc.

Technology Detail Report
(with Markups)

Business Address: 104 Corporate Park Drive
White Plains, NY 10602
Phone: 914-641-2690
Email: jlogigan@pirnie.com

Date Reviewed: 08/03/2005

Phase

Name: PA/SI
Type: Pre-Study
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Approach: None
Description: SI of Former Skeet Range

Media/Waste Type: Soil
Secondary Media/Waste Type: N/A
Contaminant: Metals
Secondary Contaminant: Semi-Volatile Organic Compounds (SVOCs)
Markup Template: System Defaults

Technology

Name: Site Inspection (12 months only)
Prime Markup: 100 %
Sub Markup: 0 %

Templates: System Soil-Metals

Elem nt: Planning

Ass mbly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Overrid
33010104	Sample collection, vehicle mileage charge, car or van	500.00	MI	0.16	0.00	0.00	$82.15	☐
33010202	Sample collection, sampling personnel travel, per diem	2.00	DAY	150.11	0.00	0.00	$300 22	☑
33220102	Project Manager	17.00	HR	0 00	188.59	0.00	$3,205.97	☐
33220109	Staff Scientist	101.00	HR	0.00	156.89	0.00	$15,846.15	☐
33220110	QA/QC Officer	9.00	HR	0.00	154.24	0.00	$1,388.16	☐

Technology Detail Report
(with Markups)

Element: Planning

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Overrid
33220111	Certified Industrial Hygienist	16.00	HR	0.00	195.72	0.00	$3,131.45	☐
33220114	Word Processing/Clerical	28.00	HR	0.00	81.42	0.00	$2,279.87	☐
33220115	Draftsman/CADD	26.00	HR	0.00	106.45	0.00	$2,767.60	☐
33240101	Other Direct Costs	1.00	LS	260.43	0.00	0.00	$260.43	☑
					Total Element Cost		**$29,262.00**	

Elem nt: Site Investigation

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Overrid
33220102	Project Manager	17.00	HR	0.00	188.59	0.00	$3,205.97	☐
33220109	Staff Scientist	101.00	HR	0.00	156.89	0.00	$15,846.15	☐
33220110	QA/QC Officer	7.00	HR	0.00	154.24	0.00	$1,079.68	☐
33220111	Certified Industrial Hygienist	2.00	HR	0.00	195.72	0.00	$391.43	☐
33220114	Word Processing/Clerical	25.00	HR	0.00	81.42	0.00	$2,035.60	☐
33220115	Draftsman/CADD	6.00	HR	0.00	106.45	0.00	$638.68	☐
33240101	Other Direct Costs	1.00	LS	202.76	0.00	0.00	$202.76	☑
					Total Element Cost		**$23,400.26**	

Technology Detail Report
(with Markups)

El ment: Sampling and Analysis

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Ov rrid
33010104	Sample collection, vehicle mileage charge, car or van	560.00	MI	0.16	0.00	0.00	$92.01	☐
33010202	Sample collection, sampling personnel travel, per diem	6.00	DAY	150.11	0.00	0.00	$900.66	☑
33020343	Photo-Ionization Detector, HnU, Weekly Rental	1.00	WK	474.88	0.00	0.00	$474.88	☐
33020401	Disposable Materials per Sample	18.00	EA	11.50	0.00	0.00	$207.01	☐
33020402	Decontamination Materials per Sample	18.00	EA	10.24	0.00	0.00	$184.39	☐
33020603	Surface Soil Sampling Equipment	1.00	EA	510.80	0.00	0.00	$510.80	☐
33020605	Screw augers, hand auger rental	1.00	DAY	83.73	0.00	0.00	$83.73	☐
33021102	Testing, moisture content (209a)	18.00	EA	44.98	0.00	0.00	$809.60	☐
33021709	Testing, TAL metals (6010/7000s)	18.00	EA	559.89	0.00	0.00	$10,078.03	☐
33021722	Polynuclear Aromatic Hydrocarbons(PAH) (SW 8310),w/prep, Soil Analysis	18.00	EA	166.21	0.00	0.00	$2,991.74	☐
33220112	Field Technician	48.00	HR	0.00	116.88	0.00	$5,610.46	☐
33231182	DOT steel drums, 55 gal., open, 17C	1.00	EA	113.24	0.00	0.00	$113.24	☐
					Total Element Cost		**$22,056.55**	
					1st Year Technology Cost		**$74,718.81**	

Cost Database Date 2005

Cost Type User-Defined

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